5.0   USER TERMINAL PROCESSING PROCEDURES

5.1   JEPES Home Page

JEPES Home Page contains general information on JEPES, the RPI (Combined Asset) export file, the OPLAN Independent export file and some OPLAN Dependent export files. These export files can be saved into the user's *rpi* and *oplan* subdirectories. See Paragraphs 5.3.1.3, Import Independent, 5.3.1.4, Import Dependent and 5.3.1.10, Import Combined Asset, for more information on saving and importing these export files into JEPES.

To access the JEPES Home Page, execute Netscape on the Secret Internet Protocol Router Network (SIPRNET) and enter the following Location:

http://nmcc20a/users/dj9jtdbm/html/homepage.html

5.1.1   JEPES Technical Database Manager (TDBM)

The JEPES Technical Database Manager (also known as the JEPES Primary User) resides at the NMCC and JEPES user's should contact him/her for any questions and problems with JEPES. The GMC-Pentagon Help Desk (see Appendix C, Error Messages) will provide information on contacting the JEPES TDBM. The JEPES Primary User's Facility_Category table will be accessed by RPI and will be considered the "official" Facility_Category table.

5.2   First-Time User of the Software

A user must first have a UNIX account on the client and an ORACLE account on the server. The Systems Administrator (SA) then needs to add the new user to JEPES. To add a new user, the SA executes the following at the UNIX prompt:

/h/OJEPES/install/jepes_user.csh <userid>

where *<userid>* is the user's UNIX account.

Adding a new user will do the following:

      a.   Grant user access to the JEPES_DATA tablespace;

      b.   Grant the user select privileges to the following JOPES Core database tables:

            1.   Geographic_Location,
            2.   Oplan,
            3.   Oplan_Force_Rqmt,
            4.   Oplan_Force_Rqmt_Loc,
            5.   Unit_Type,
            6.   Unit_Type_Cargo_4th, and
            7.   User_Oplan_Permission.

c.   Create JEPES tables, indices, views, and synonyms with the user's User ID as owner; and

d.   Create the following JEPES subdirectories in the user's *jepes* directory, which is defined in the UNIX environment variable called JEPES_USER_DIR:

     1.   *oplans*, which contains users' oplan export files,
     2.   *user_sql*, which contains users' SQL query files,
     3.   *user_rpt*, which contains subdirectories that store users' SQL report files,
     4.   *data*, which contains users' text files; i.e., old WWMCCS text files, Requirements Generation text files,
     5.   *rpi*, which contains users' combined asset export files.

To drop a user, the systems administrator executes the following at the UNIX prompt:

/h/OJEPES/install/drop_jepes_user.csh <userid>

where *<userid>* is the user's UNIX account.

Dropping a user will do the following:

a.   Revoke the user's access to JEPES_DATA tablespace;
b.   Drop the user's JEPES tables, indices, views, and synonyms.

5.2.1   Equipment Familiarization

Although JEPES will execute on a Sun Server, and will display on an X-Terminal capable of producing a 1024x768 display, the following equipment is recommended for running JEPES in the GCCS COE environment:

- A Sun SPARC server configured per the GCCS COE for the size of the site where the application will execute;

- 28 MB disk storage for JEPES application files on the client;

- 28 MB disk storage for each user's jepes directory on the client, and

- 300 MB disk storage for the JEPES tablespace on the server which supports the storage of data for up to 5 JEPES users, with each user needing approximately 60 MB for their JEPES tables.

5.2.1.1 Procedures to Turn On Power and Make Adjustments

There are no unique procedures for turning on the power or making adjustments to the equipment required for JEPES. The application will run on a server and display on whatever terminal is available for displaying the GCCS applications. The local SA will provide assistance initializing the system if required.

5.2.1.2 Dimensions and Capabilities of Visual Display Screen

Normally a 17 inch or larger screen capable of running at a resolution of 1024 X 768 will be used.

5.2.1.3 Cursor Appearance

Cursor appearance depends on the hardware being used to display the JEPES application. Normal cursor appearances show an arrow to identify the cursor location on a screen, a vertical bar to identify an insertion point, and a clock face to indicate that processing is occurring and the user must wait before continuing work.

JEPES uses the MOTIF user interface conventions. The cursor is positioned using the mouse. It appears as a darkened arrow pointing towards the upper left corner of the screen, except when selecting an item from a menu bar. When the system is busy performing a command initiated by the user, the cursor changes to a "watch."

5.2.1.4 Keyboard Layout

Buttons are available throughout the JEPES application. A user can always cancel a screen by pressing **[Ctl-F4]**.

5.2.1.5 Procedures for Turning Power Off

Since the application will be running on a UNIX machine, the user should never exit by turning off power to the machine. The SA or local operating procedures will provide additional assistance and guidance to users that are not familiar with applications running on UNIX-based hardware and operation of UNIX based hardware. Before turning off power on a PC, exit JEPES by pressing the **{EXIT}** button on the JEPES Main Menu window.

5.2.2 Access Control

Local procedures for obtaining a password for access to GCCS JOPES hardware and software will be required. No additional passwords or logins are required.

5.2.3 Installation and Setup

Installing the JEPES segments and adding the JEPES user is performed by the SA. For more information, refer to the JEPES Release Notes in */h/JEPES/SegDescrip/ReleaseNotes*.

5.2.4 Stopping and Suspending Work

The user exits JEPES by pressing the **{EXIT}** button in the top left corner of the JEPES Main menu.

The Utilities option provides capabilities to import and export JEPES data.

The user is returned to the OPLAN from the previous session when they log back into the application. This is true even if the OPLAN has been saved as a file before they exited JEPES.

5.3   Processing Reference Guide

This paragraph provides information necessary for producing the various reports, spreadsheets, graphs, and text files. This information includes required and optional inputs, helpful hints, possible pitfalls, and guidance on execution of functions. Highlighted notes provide helpful hints for running JEPES. Each function includes a figure that indicates the menu structure within that function. Another figure also may be included within the function description that indicates the inputs and outputs.

When a user logs on to JEPES (refer to Paragraph 3.1, Initiation Procedures, for initiating JEPES), the main menu will appear with the following functions: Utilities, Database Maintenance, Requirements Generation, Requirements Analysis, Reports/Queries, and Support. There are also functions available outside the JEPES, which are discussed in Appendix G, Functions Available Outside of JEPES.

5.3.1   Utilities

See Figure 5.3.1-1, Utilities, for an overview of this function.
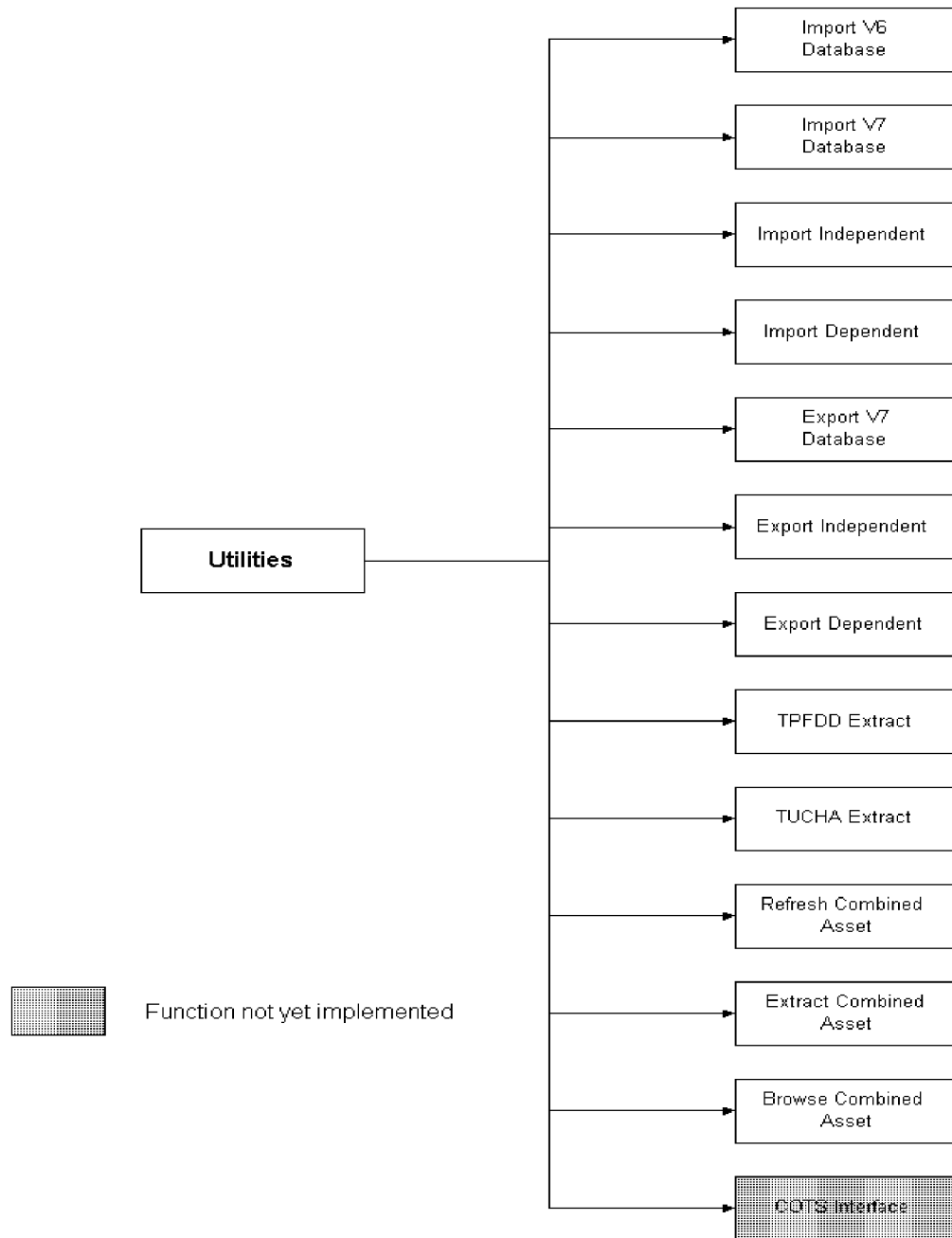
Figure 5.3.1-1. Utilities

5.3.1.1 Import Version 6 Database

This function uses the ORACLE import capability to import a Version 6.0 export file into the ORACLE Version 7.0 database. This function **MUST** be used when importing an OPLAN from the JEPES PC Version 3.0 into the JEPES GCCS Version 4.0. Any existing JEPES tables and indexes will be dropped and recreated. Table and index creation reports are written to the user's *jepes* directory; i.e., *jepes.log, jepesind.log*. The user is then prompted to enter the ORACLE Version 6 export file name. This export file must reside in *$HOME/jepes/oplans/*directory. For the remaining ORACLE import information, the user can pre ss **[Enter]** key to activate the default values. At this point, all tables in the export file are imported into the JEPES database. The Geoloc_Tab table is dropped and the Geoloc_Tab view is created, which is a view of the GCCS Geographic_Location table. The JEPES synonyms are created. This function will also create the JEPES_Unit_Type and JEPES_Equipment_Type tables and puts the data from Unit_Type and Equipment_Type into them. Unit_Type and Equipment_Type tables are dropped.

5.3.1.2 Import Version 7 Database

This function imports the entire JEPES database listed in Table 5.3.1.2-1, JEPES Database. The tables are first dropped, then data are imported into the JEPES database. The tables are recreated during the import process. The export file; i.e., the file being imported, must exist in *$HOME/jepes/oplans* directory and have *.jep* for the extension. The export file must have been created using the GCCS version of JEPES. A user can obtain a list of existing export files before executing the import function. If the export file is out-dated (i.e. contains Unit_Type and Equipment_Type) then JEPES_Unit_Type and JEPES_Equipment_Type are created and data from Unit_Type and Equipment_Type are added to them. Unit_Type and Equipment_Type tables are dropped and the export file is recreated with the new table names (JEPES_Unit_Type and JEPES_Equipment_Type).

Table 5.3.1.2-1. JEPES Database (1 of 2)

JEPES Database
Aggregated_Asset
Asset
Attrition_Factor
Avail
Backup_Supply
Base_Complex
Base_Fac_Construction_Policy
Base_Location
Base_Sum
Cargo_Aggregation_Period
Climatic_Factor
Component
Component_Exception
Construction_Capability
Deployed_Eng_Sensitive_Unit
Destination_Location
Engineering_Support
Engineering_Unit_Capability
Equipment_Planning_Factor
Facility_Category
Facility_Category_Substitute
Facility_Component
Facility_Requirements
General_Planning_Factor
JEPES_Equipment_Type
JEPES_Unit_Type
Keys
LOGSAFE_Interface

Table 5.3.1.2-1. JEPES Database (2 of 2)

JEPES Database
LSA_Export
LSA_Interface
LSA_Requirements
Non_Unit_Cargo
Operation
Originating_Location
Phase_In_Efficiency
Planner_Input_Requirements
Plan_Fac_Construction_Policy
Plan_Sum
POD_Location
POE_Location
Preproj
Pre_Project
Pre_Unscheduled_Project
Project
Req_Analysis_Tracking
Scheduled_Project
Skill_Sub
S_P_Tab
Time_Period
Unit_Equipment
Unscheduled_Project
War_Damage_Factor

5.3.1.3 Import Independent

This function imports the plan-independent tables listed in Table 5.3.1.3-1, Plan-Independent Tables. The tables are first dropped, then data are imported into the JEPES database. The tables are recreated during the import process. The export file; i.e., the file being imported, must exist in the user's *$HOME/jepes/oplans*

directory and have *.ind* for the extension. A user can obtain a list of existing export files before executing the import function. OPLAN Independent export files will reside on the JEPES Home Page and can be saved in the user's *oplan* subdirectory before executing this function, see Paragraph 5.1, JEPES Home Page. If the export file is out-dated (i.e. contains Unit_Type and Equipment_Type tables) then JEPES_Unit_Type and JEPES_Equipment_Type are created and data from Unit_Type and Equipment_Type are added to them. Unit_Type and Equipment_Type tables are dropped and the export file is recreated with the new table names (JEPES_Unit_Type and JEPES_Equipment_Type).

Table 5.3.1.3-1. Plan-Independent Tables

Plan-Independent Tables
Component
Engineering_Unit_Capability
Equipment_Planning_Factor
Facility_Category
Facility_Component
Facility_Requirements
General_Planning_Factor
JEPES_Equipment_Type
JEPES_Unit_Type
Unit_Equipment

5.3.1.4 Import Dependent

This function imports the plan-dependent tables listed in Table 5.3.1.4-1, Plan-Dependent Tables. The tables are first dropped, then data are imported into the JEPES database. The tables are recreated during the import process. The export file; i.e., the file being imported, must exist in the user's *$HOME/jepes/oplans* directory and have *.dep* for the extension. A user can obtain a list of existing export files before executing the import function.

Table 5.3.1.4-1. Plan-Dependent Tables

Plan Dependent Tables
Asset
Attrition_Factor
Backup_Supply
Base_Complex
Base_Fac_Construction_Policy
Base_Location
Climatic_Factor
Deployed_Eng_Sensitive_Unit
Engineering_Support
Facility_Category_Substitute
Operation
Phase_In_Efficiency
Planner_Input_Requirements
Plan_Fac_Construction_Policy
Skill_Sub
Time_Period
War_Damage_Factor

5.3.1.5 Export Version 7 Database

This function creates an export file that contains the entire JEPES database (see Table 5.3.1.2-1, JEPES Database). The new file name must have *.jep* for the extension. The export file will overwrite any existing file with the same name. The new export file will reside in the user's *$HOME/jepes/oplans* directory.

5.3.1.6 Export Dependent

This function creates an export file that contains the plan-dependent tables (see Table 5.3.1.4-1, Plan-Dependent Tables). The new file must have *.dep* for the extension. The export file will overwrite any existing file with the same name. The new export file will reside in the user's *$HOME/jepes/oplans* directory.

5.3.1.7 Export Independent

This function creates an export file that contains the plan-independent tables (see Table 5.3.1.3-1, Plan-Independent Tables). The new file name can contain up to a maximum of eight characters and must have *.ind* for the extension. The export file will overwrite any existing file with the same name. The new export file will reside in the user's *$HOME/jepes/oplans* directory.

Note: The export files can be large and take up considerable disk space. Any unneeded export files should be removed or downloaded to a tape or floppy disk.

5.3.1.8 Extract TPFDD

This function imports data from the JOPES Core database into the Deployed_Eng_Sensitive_Unit table. The user is prompted to enter the OPLAN ID. The OPLAN ID must exist in the GCCS OPLAN table, and the User's ID and the OPLAN ID must exist in the GCCS User_OPLAN_Permission table. Data from the GCCS Oplan_Force_Rqmt table, the Oplan_Force_Rqmt_Loc table, and the Geographic_Location table are input into the JEPES Deployed_Eng_Sensitive_Unit table. After the import is complete, a status report is displayed showing the number of records insert into the JEPES table and the number of rejected records. A user can print out this record. Also, the user has the option to browse/print a listing of rejected TPFDD records.   See Paragraph 3.2.2.1.2, GCCS/TPFDD Data and Paragraph, 3.3.1.1, TPFDD Extract Report, for more information.

5.3.1.9 Extract TUCHA

This function imports data from the JOPES Core database into JEPES tables. The user is prompted to enter the OPLAN ID. The OPLAN must exist in the GCCS OPLAN table, and the User's ID and the OPLAN ID must exist in the GCCS User_OPLAN_Permission table. Data from the GCCS Unit_Type table and Oplan_ Force_Rqmt table are input into the JEPES_Unit_Type table. Data from the GCCS Unit_Type table and Unit_Type_Cargo_4th table are input into the JEPES Unit_Equipment table. A listing of the number of records inserted into JEPES_Unit_Type table and Unit_Equipment table is displayed. Any TUCHA records with null UTCs, Service codes, Unit Names, or Authorized Personnel are not stored into JEPES tables.   See Paragraph 3.2.2.1.1, GCCS/TUCHA Data for more information.

5.3.1.10 Import Combined Asset

This function will import the Combined_Asset table from an RPI export file with the following format: YYMMMDD.rpi (i.e. 96MAR01.rpi). The RPI export file must reside in the user's *$HOME/jepes/rpi* directory. The JEPES Home Page will contain RPI's Combined Asset export file, see Paragraph 5.1, JEPES Home Page. The user must save the export file in the *rpi* subdirectory before executing this function.

5.3.1.11 Extract Combined Asset

This function will extract the Combined Asset data into the JEPES' Asset and War_Damage_Factor tables. Extracting data requires matching the Geographic Location (Geoloc) Code from the JEPES Base_Location table with the Geoloc Code from the Combined_Asset table to determine the Base Complex Number (BCN). Figure 5.3.1.11-1, Extract Combined Asset, describes the relationship between the Combined_Asset, Asset, and Base_Location tables. Asset Owner will always be set to 'U,' which stands for United States. The Asset Comment will be input by the user. See Paragraph 3.2.2.1.4, RPI/Combined Asset Data for more information.
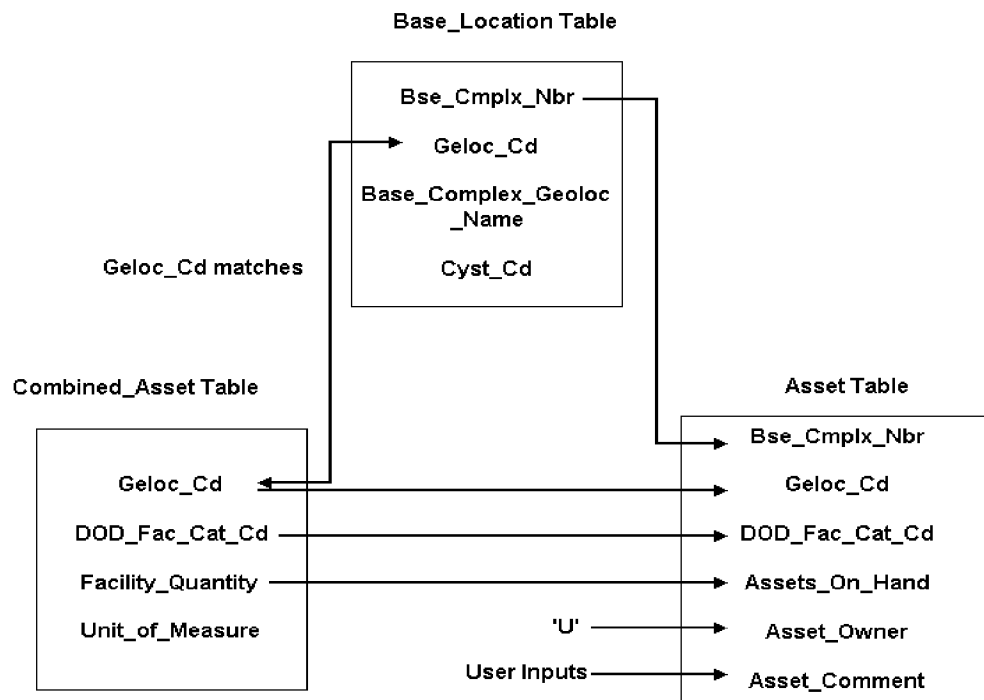

Figure 5.3.1.11-1. Extract Combined Asset

5.3.1.12 Browse Combined Asset

This function allows the user to query only the Combined Asset data.

5.3.2   Database Maintenance

Two implemented functions are discussed below. The third function, COTS Interface, is shown in Figure 5.3.2-1, Database Maintenance, but has not been implemented.
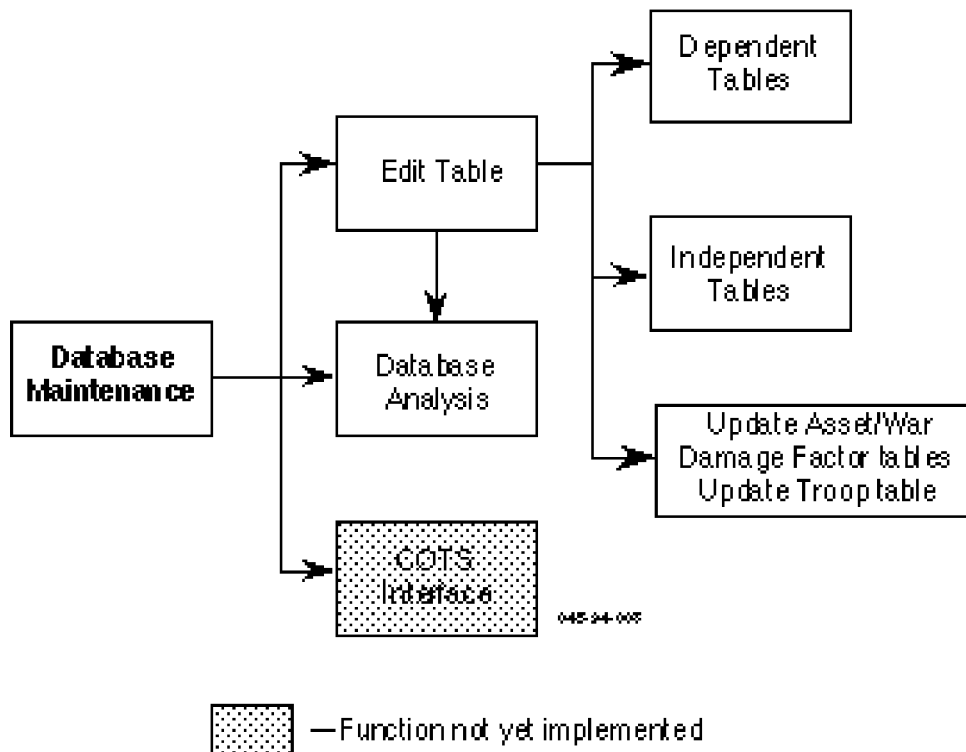

Figure 5.3.2-1. Database Maintenance

5.3.2.1 Edit Tables

This function provides capabilities to add, modify, delete, and query/review the JEPES database for plan-independent or plan-dependent tables. The query option allows a user to construct a query on all or some of the fields in a table. **Note:** A user can qualify retrievals on fields. Appendix H, JEPES Codes, contains a list of JEPES codes, containing values and ranges to be used in facilitating the query. For example, a user who queries on a Constructing Policy code, must enter a number between zero and four. The % (percent) sign can be used as a wildcard, for example when querying Facility Component, a user can enter 11% for Servcomp code to retrieve all records that have 11 as the first two digits of the Servcomp code.

The following describes tables 5.3.2.1-1 through 5.3.2.1-3:

Table 5.3.2.1-1, Records Updated in a Table, provides information on how JEPES helps the user update and/or correct values in the database and still maintain the relational aspects of the database. For example, to update the DOD_Fac_Cat_Codes in the database, the user should update the (independent) Facility_Category table. This action will cause automatic updating of 12 other tables. To add Bse_Cmplx_Nbrs or redistribute

Geoloc_Codes associated with specified Bse_Cmplx_Nbrs, the user should work with the Base_Complex and Base_Location tables. In this way, nine other tables will be kept current automatically. The method of updating the Base_Complex and Base_Location tables is known as rebasing. For more information on rebasing, refer to Paragraph 5.3.2.1.1, Updating Base_Complex and Base_Location Tables (Rebasing).

Table 5.3.2.1-2, Records Deleted in a Table, provides details of what happens with record deletion. The left column lists the table in which a user may delete a record. This action causes additional records to be deleted in the tables listed in the right-hand column. The selection of these additional records is controlled by the values of the data element(s) listed in the center column. Where more than one data element is listed, all values must be matched for a deletion.

Table 5.3.2.1-3, Records Inserted in a Table, provides the details of what happens with a record insertion. For example, when the user adds the data elements to the Asset table, the same data elements get added to the War_Damage_Factor table.

The Database Analysis function should be operated after any database editing. In addition, JEPES will check for consistency between tables while in the edit mode and will indicate the tables checked for the particular menu selection. Also indicated are range values that are checked. Appendix D, JEPES Data Element Dictionary and Appendix H, JEPES Codes, provides range information. In addition, the second portion in Appendix D indicates all tables in which a specified data element may be found.

Table 5.3.2.1-1. Records Updated in a Table (1 of 3)

Tables Updated by User	Data Element(s) Updated By User	Tables Updated By JEPES
Asset	DOD_Fac_Cat_Cd, Asset_Owner	War_Damage_Factor
Base_Complex (rebasing functionality)	Bse_Cmplx_Nbr	Asset
		Backup_Supply
		Base_Fac_Construction_Policy
		Base_Location
		Component_Exception
		Deployed_Eng_Sensitive_Unit
		Engineering_Support
		Planner_Input_Requirements
		War_Damage_Factor

Tables Updated by User	Data Element(s) Updated By User	Tables Updated By JEPES
Base_Location (rebasing functionality)	Geoloc_Cd	Asset
		Deployed_Eng_Sensitive_Unit (Destination_Geoloc_Cd)
		War_Damage_Factor
Component	Servcomp_Cd	Facility_Requirements
		Facility_Component
		Planner_Input_Requirements
Component	Service_Code	Facility_Requirements (Servcomp_Cd set to '???????', Service_Code not updated)
		Facility_Component
		Planner_Input_Requirements (Servcomp_Cd set to '???????', Service_Code not updated)
JEPES_Equipment_Type	Equipment_Identifier_Code, Service_Code	Equipment_Planning_Factor
		Unit_Equipment

Tables Updated by User	Data Element(s) Updated By User	Tables Updated By JEPES
Facility_Category	DOD_Fac_Cat_Cd	Asset
		Base_Fac_Construction_Policy
		Component_Exception
		Engineering_Support
		Equipment_Planning_Factor
		Facility_Category_Substitute (DOD_Fac_Cat_Cd and Substitute_ DOD_Fac_Cat_Cd)
		Facility_Component
		Facility_Requirements
		General_Planning_Factor
		Plan_Fac_Construction_Policy
		Planner_Input_Requirements
		War_Damage_Factor
Facility_Component	DOD_Fac_Cat_Cd, Servcomp_Cd, Using_Service	Planner_Input_Requirements (Servcomp_Cd set to '*******')
Operation	Pln_Idr	Cargo_Aggregation_Period
JEPES_Unit_Type	UTC	Unit_Equipment
		Engineering_Unit_Capability
		Facility_Requirements
		Deployed_Eng_Sensitive_Unit

Table 5.3.2.1-2. Records Deleted in a Table (1 of 2)

Records in Tables Deleted By User	Linkage	Records Deleted In Tables By JEPES
Asset	Bse_Cmplx_Nbr, Geoloc_Cd, DOD_Fac_Cat_Cd, Asset_Owner	War_Damage_Factor
Base_Complex	Bse_Cmplx_Nbr	Asset
		Backup_Supply
		Base_Fac_Construction_Policy
		Base_Location
		Component_Exception
		Deployed_Eng_Sensitive_Unit
		Engineering_Support
		Planner_Input_Requirements
		War_Damage_Factor
Base_Location	Geoloc_Cd	Asset
		War_Damage_Factor
Component	Servcomp_Cd, Service_Code	Facility_Requirements (Servcomp_Cd set to '???????', No Records Deleted)
		Facility_Component
		Planner_Input_Requirements (Servcomp_Cd set to '???????', No Records Deleted)
JEPES_Equipment_Type	Equipment_Identifier_Code, Service_Code	Equipment_Planning_Factor
		Unit_Equipment

Records in Tables Deleted By User	Linkage	Records Deleted In Tables By JEPES
Facility_Category	DOD_Fac_Cat_Cd	Asset
		Base_Fac_Construction_Policy
		Component_Exception
		Engineering_Support
		Equipment_Planning_Factor
		Facility_Category_Substitute (DOD_ Fac_Cat_Cd or Substitute_DOD_Fac_Cat_Cd)
		Facility_Component
		Facility_Requirements
		General_Planning_Factor
		Plan_Fac_Construction_Policy
		Planner_Input_Requirements
		War_Damage_Factor
Facility_Component	DOD_Fac_Cat_Cd, Servcomp_Cd, Service_Code	Planner_Input_Requirements
Operation	Pln_Idr	Cargo_Aggregation_Period
JEPES_Unit_Type	UTC	Unit-Equipment
		Engineering_Unit_Capability
		Facility_Requirements
		Deployed_Eng_Sensitive-Unit

Table 5.3.2.1-3. Records Inserted in a Table

Records Inserted In Table By User	Data Element(s) Inserted	Records Inserted In Table By JEPES
Asset	Bse_Cmplx_Nbr, Geoloc_Cd, DOD_Fac_Cat_Cd, Asset_Owner	War_Damage_Factor
Base_Complex (Rebasing Functionality)	Bse_Cmplx_Nbr	Base_Fac_Construction_Policy, Backup_Supply

5.3.2.1.1 Updating Base Complex and Base Location Tables (Rebasing)

As noted in tables 5.3.2.1-1 through 5.3.2.1-3, when Base Complex and Base Location tables are updated other JEPES tables are also updated. The JEPES system will display alert screens that provide more information to the user. The following describes these updates in more detail.

a. <u>Add a Base Complex Number to the Base Complex table.</u>

When a user adds a Base Complex Number to the Base_Complex table, if the Geoloc Code for the new Base Complex Number is being used by an existing Base Complex Number then an alert screen will be displayed, asking the user to confirm. If the user selects the **{Y}** button then the following updates will occur:

1. The Base_Location table, Asset table and War_Damage_Factor table will be updated to the new Base Complex Number for the specified Geoloc Code.

2. The Deployed_Eng_Sensitive_Unit table will be updated to the new Base Complex Number for the Destination Geoloc Code.

3. The Base Population and the Non Combat Population of the Base_Complex table will be updated according to the sum of the Troop Strengths from the Deployed_Eng_Sensitive_Unit table, with Non Combat Population based on the UTC from the Unit Type table having a Self-Sustainability Code set to "N," see Appendix H, JEPES Codes, H-12, Self-Sustainability Code. If no data is found in the Deployed_Eng_Sensitive_Unit table, and the user did not enter data for the Base Population and the Non Combat Population, then the Base Population and Non Combatant Population will be set zero, otherwise they will retain whatever value the user entered.

A second alert screen will then be displayed requesting the user to enter the default Construction Policy Code for the Base_Fac_Construction Policy table. If the user selects the **{COMMIT}** button then the following updates will occur. **NOTE:** The first alert screen will not be displayed in the Primary Geoloc Code assigned for the new Base Complex Number is not being used by an existing Base Complex Number.

1.	New records for the Backup Supply table will be created for each Support Structure Index (1 through 5) with the Rear Echelon Storage Bases 2-5 set to null.

2.	New records for the Base_Fac_Construction Policy_table will be created for each DOD Facility Category Code with the default Construction Policy Code assigned by the user.

3.	The user will be reminded to add new records to the Engineering_Support, Planner_Input_Requirement, and Asset tables. The Asset table may not need any new records added if the Geoloc Code used comes from an existing Base Complex Number (the case of the first pop-up screen).

b.	Delete a Base Complex Number from the Base Complex table. When the user deletes a Base Complex Number from the Base Complex table, an alert screen will be displayed alerting the user that records carrying the same Base Complex Number from the following tables will also be deleted: Base_Location, Planner_Input_Requirement, Deployed_Eng_Sensitive_Unit, Base_Fac_Construction_Policy, Component_Exception, Engineering_Support, Backup_Supply, Asset, and War_Damage_Factor.

c.	Update a Base Complex Number for the Base Complex table. When the user updates the Base Complex Number for the Base_Complex table, an alert screen will be displayed alerting the user that records carrying the same Base Complex Number from the following tables will also be updated with the new Base Complex Number: Base_Location, Planner_Input_Requirement, Base_Fac_Construction_Policy, Deployed_Eng_Sensitive_Unit, Component_Exception, Engineering_Support, Backup_Supply, Asset, and War_Damage_Factor.

d.	Add a Geoloc Code to the Base Location table. This option can be selected from the JEPES Edit Tables menu, or automatically prompted to the user after the user adds a new Base Complex Number to the Base_Complex table.

e.	Delete a Geoloc Code from the Base Location table. When the user deletes a Geoloc Code from the Base_Location table, an alert screen will be displayed alerting the user that corresponding records from the Asset and War_Damage_Factor tables will also be deleted.

f.	Update a Geoloc Code for the Base Location table. When the user updates a Geoloc Code for the Base Location table, an alert screen alerting the user that records carrying the same Geoloc Code in the War_Damage_Factor, Deployed_Eng_Sensitive_Unit, Asset tables will also be updated with the new Base Complex Number. The Base Population and the Non Combatant Population of the Base_Complex table record will be updated according to the sum of the Troop Strengths from the Deployed_Eng_Sensitive_Unit table, with Non Combatant Population based on the UTC from the Unit_Type Table having a Self-Sustainability Code set to 'N'.

5.3.2.2 Database Analysis

This function provides the capability to determine if discrepancies exist between database tables. Results of the analysis will be printed. "No Rows Selected" will be printed if no discrepancies were found. Table 5.3.2.2-1, Database Analysis, indicates the consistency checking performed.

Note: A user should run the database analysis after importing TPFDD, TUCHA, and RPI data into the JEPES database and after loading a new OPLAN into the JEPES database and before generating requirements.

<div align="center">Table 5.3.2.2-1. Database Analysis (1 of 3)</div>

Menu Selection	Checks DATA ELEMENT(S) in Table(s)	Exists in Table(s)
Asset	Bse_Cmplx_Nbrs in Asset and War_Damage_Factor	Base_Complex
	DOD_Fac_Cat_Cd in Asset and War_Damage_Factor	Facility_Category
	Geoloc_Cd in Asset and War_Damage_Factor	Base_Location (as Geoloc_Cd)
	Duplicate records for Bse_Cmplx_Nbr, Geoloc_Cd, DOD_Fac_Cat_Cd, and Asset_Owner	
	Records existing in Asset and not War Damage Factor will be added to the War Damage Factor	
	Records existing in War Damage Factor and not in Asset will be deleted from War Damage Factor	
Base_Complex	Bse_Cmplx_Nbrs in Base_Location, Backup_Supply (including Rear Echelon Storage Bases), Base_Fac_Construction_Policy, and Engineering_Support	Base_Complex
Base_Location	Base_Primary_Geoloc in Base_Complex	Base_Location

Menu Selection	Checks DATA ELEMENT(S) in Table(s)	Exists in Table(s)
Equipment_Planning_Factor	Equipment_Identifier and Service_Code in Equipment_Planning_Factor	JEPES_Equipment_Type
	Equipment_Identifier and Service_Code in JEPES_Equipment_Type	Equipment_Planning_Factor
JEPES_Equipment_Type	Equipment_Identifier and Service_Code from Equipment_Planning_Factor	JEPES_Equipment_Type
Facility_Category	DOD_Fac_Cat_Cd in Facility_Requirements, Facility_Component, Base_Fac_Construction_Policy, Facility_Category_Substitute, Engineering_Support, Equipment_Planning_Factor, General_Planning_Factor, and Plan_Facility_Construction_Policy	Facility_Category
Facility_Requirements	Servcomp_Cd and Service_Cd in Facility_Requirements and Facility_Component	Component
	DOD_Fac_Cat_Cd in Facility_Requirements	Facility_Category

Menu Selection	Checks DATA ELEMENT(S) in Table(s)	Exists in Table(s)
Planner_Input_ Requirements	Bse_Cmplx_Nbrs in Planner_Input_Requirements	Base_Complex
	DOD_Fac_Cat_Cd in Planner_Input_Requirements	Facility_Component, Facility_Category
	Using_Service and Servcomp_Cd in Planner_Input_Requirements	Facility_Component
	Servcomp_Cd is not null in Planner_Input_Requirements	
Troop (Deployed_Eng_ Sensitive_Unit)	UTCs in Deployed_Eng_Sensitive_Unit (Deployed Unit)	JEPES_Unit_Type
	Bse_Cmplx_Nbrs in Deployed_Eng_Sensitive_Unit (Deployed_Unit)	Base_Location and Base_Complex
	Destination_Geolocs in Deployed_Eng_Sensitive_Unit (Deployed_Unit)	Base_Location (as Geoloc_Cd) and Base_Complex (as Base_Primary_Geoloc)
	UTCs of '4%%%' in Deployed_Eng_Sensitive_Unit (Deployed_Unit)	Engineer_Unit_Capability
	Duplicate records for Bse_Cmplx_Nbrs, Destination_Geolocs, Force_Rqmt_Number, Fragmentation_Code and Insert_Code	
Unit_Equipment	UTCs in Unit_Equipment	JEPES_Unit_Type
	Service_Code and Equipment_Identifier_Code in Unit_Equipment	JEPES_Equipment_Type
JEPES_Unit_Type	UTCs in Facility_Requirements, Unit_Equipment, and Engineering_Unit_Capability	JEPES_Unit_Type

5.3.2.3 Update JEPES Tables

The following paragraphs describe how to update the tables in the JEPES Database Maintenance, refer to Figure 5.3.2-1, Database Maintenance.

5.3.2.3.1 Update Asset and War_Damage_Factor Tables

A user executes this option after updating the Asset table to ensure the JEPES tables are still in sync. When a user selects this option, the BCN in Asset and War_Damage_Factor tables will get updated to the BCN in the Base_Location table by matching the Geoloc Code between the updated tables and the Base_Location table.

5.3.2.3.2 Update Deployed_Eng_Sensitive_Unit Table

A user executes this option after the TPFDD data has been imported for a new OPLAN and rebasing has been performed. When a user selects this option, the BCN in Asset and War_Damage_Factor tables will get updated to the BCN in the Base_Location table by matching the Destination Geoloc with the Deployed_Eng_Sensitive_Unit table and the Geoloc Code with the Base_Location table. The population data in the Base_Complex table gets updated with the Troop Strength in the Deployed_Eng_Sensitive_Unit table.

5.3.2.3.3 Update 4 and 5 Above

When a user selects the Update 4 and 5 Above option, the Asset, War_Damage_Factor, and Deployed_Eng_Sensitive_Unit tables get updated. See Paragraphs 5.3.2.3.1, Update Asset and War_Damage_Factor Tables, and 5.3.2.3.2, Update Deployed_Eng_Sensitive_Unit Table, for more information.

5.3.3   Requirements Generation

5.3.3.1 Select Requirements

Before executing the Requirements Generation function a user must select one or more types of facility requirements to be generated. Currently, JEPES can generate requirements for unit allocated, planner facility, population, and base requirements. See Figure 5.3.3-1, Requirements Generation.
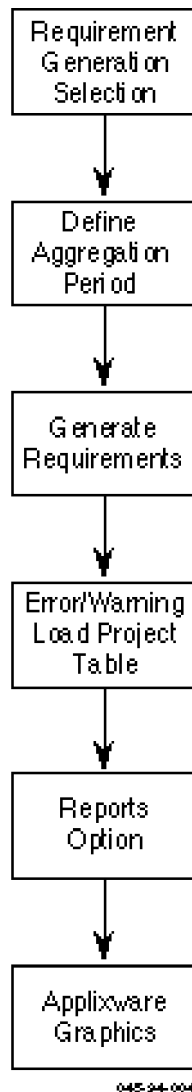
```
        ┌──────────────┐
        │ Requirement  │
        │ Generation   │
        │ Selection    │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │ Define       │
        │ Aggregation  │
        │ Period       │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │ Generate     │
        │ Requirements │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │ Error/Warning│
        │ Load Project │
        │ Table        │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │ Reports      │
        │ Option       │
        └──────┬───────┘
               │
               ▼
        ┌──────────────┐
        │ Applixware   │
        │ Graphics     │
        └──────────────┘
              045-94-004
```

Figure 5.3.3-1. Requirements Generation

Note: Unit-allocated type of facility requirements should be run separately. Unit-allocated requirements access the same records of the Deployed_Eng_Sensitive_Unit Table as the Population requirements. Therefore, running these options together can cause problems.

5.3.3.1.1 Unit-Allocated Requirements

For each troop entry from the TPFDD, unit-allocated requirements based on unit facility and unit equipment will be generated for each facility required by a unit. Unit-allocated Requirements will be generated for any unit assigned to a base that has unit-allocated Construction Policy code set to "build all". (See Table H-2, Construction Policy Codes). Unit-allocated requirements will be generated for noncombat units only that are

5-25

assigned to a base that has unit-allocated Construction Policy code set to "build noncombat" and the Self Sustainability Code set to "N" for non-combat. (See Table H-12, Self-Sustainability Code)

5.3.3.1.2 Planner Facility Requirements

This requirement encompasses the Civil Engineer planner input requirements. The Constructing service will come from the Planner_Input_Requirement table unless it is set to null, then it will come from the Base Owner in the Base_Complex table.

Note: A user should not generate planner facility requirements if the Construction Policy code in the Base_Fac_Construction_Policy is set to four ("Do not build, but assess war damage").

5.3.3.1.3 Population Requirements

Total population and People requirements are generated if Construction Policy code is set to "build all" or "build noncombat." This requirement provides facility requirements based on two separate calculations:

      a.   Total Population Requirements - The population will be the base population if the Construction Policy code is set to "build all" and the noncombat population if the Construction Policy code is set to "noncombat." The planning factors times the population will determine the Facility Quantity Required.

      b.   Base-Resident Population (People) Requirements - The planning factors times the troop strength will determine the Facility Quantity Required.

5.3.3.1.4 Base Requirements

Base requirements are those facilities required for use at each base complex without regard to troop population or equipment, e.g., a weather station. One base requirement is generated for each Base Complex used by the Services specified in each General Planning Factor record. Base requirements are generated if Construction Policy code is set to "build all" or "build noncombat." Facility Quantity Required gets set to either Echelon Planning Factor (1) or Echelon Planning Factor (2), from the General_Planning_Factors table.

5.3.3.2 Define Aggregation Period

A user can define the time periods into which the requirements are grouped. This information is used in generating the requirements generation graphics. Refer to Paragraph 3.3.1.3.2, Graphics for further information.

5.3.3.3 Generate Requirements

After a user commits the aggregation period, the option to exit before generating requirements is given. If the user presses the {COMMIT} button, the JEPES model will generate the requirements. Figure 5.3.3.3-1, Generate Requirements, describe the inputs and outputs for generating the requirements.
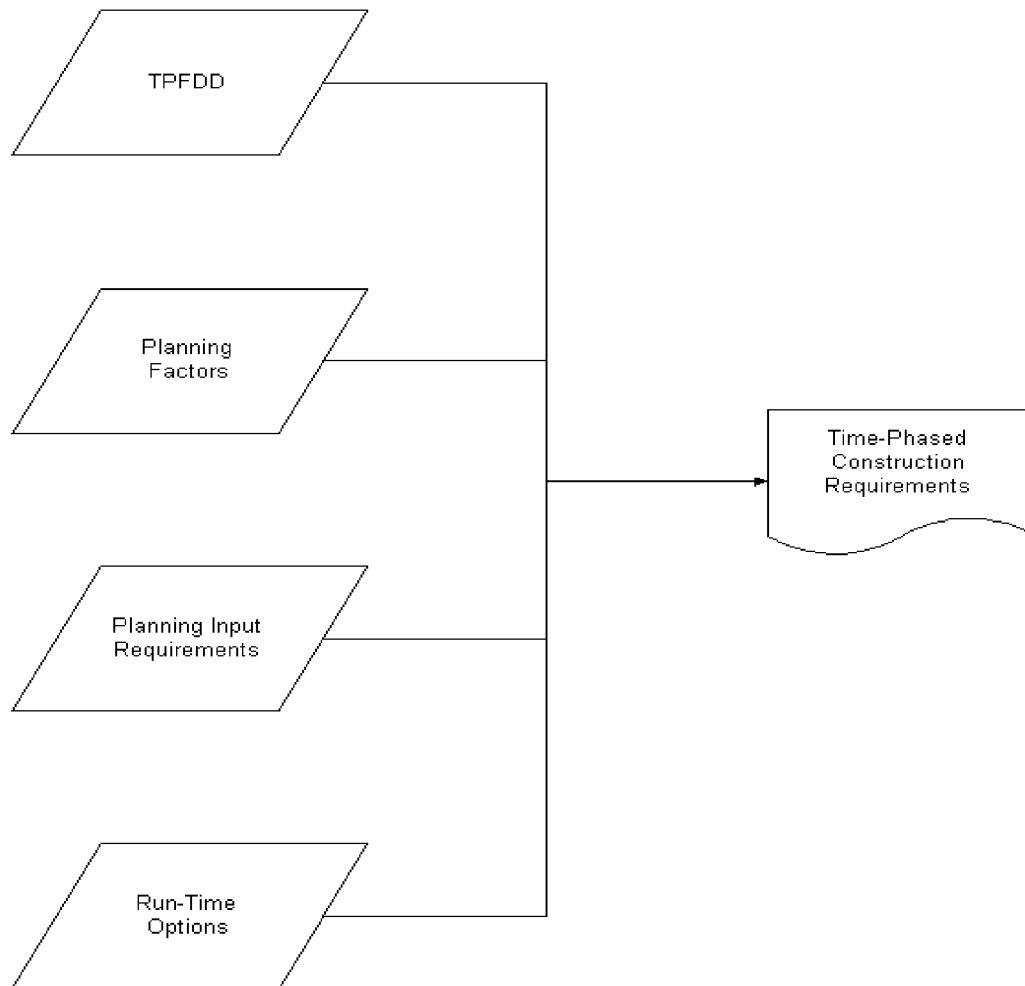
Figure 5.3.3.3-1. Generate Requirements

5.3.3.4 Display Warnings/Errors

Any warnings/errors generated can be either displayed or printed. See Appendix C, Error Messages, for more information on errors and warnings and a list of most errors.

5.3.3.5 Load Project Table

If the user selects the {Y} button to load requirements data into the Project table, then the requirement data just generated will be saved and will be loaded into the Project table. If the user selects the {N} button then the requirements data will not be saved and will not get loaded into the Project table. The default is {Y}.

If the user selects the **{N}** button to new OPLAN, then previously saved requirements will, also, get loaded into the Project table. If the user selects the **{Y}** button to new oplan, then only the requirements just generated will get loaded into the Project table. The default is **{N}**.

5.3.3.6 Generate Printed Reports

The user can print reports on all projects or a selected base complex. The reports list the facility requirements generated for recent and/or previously generated requirements. Paragraph 3.3.1.3.1, Reports, details the Requirements Generation reports.

5.3.3.7 Generate Graphs/Spreadsheets

The user can generate graphs and spreadsheets using Applixware. The user can generate graphs for the four options. Option 1 (Base Population Data) will generate the base population from the Base_Complex table. Option 2 will generate troop strength information grouped by requirements aggregation period. Option 3 will generate time-phased requirements for an OPLAN and up to four DOD Facility Category codes. Option 4 will generate time-phased requirements for a BCN and up to four DOD Facility Category codes. Paragraph 3.3.1.3.2, Graphics, describes the graphics and spreadsheets.

5.3.4   Requirements Analysis

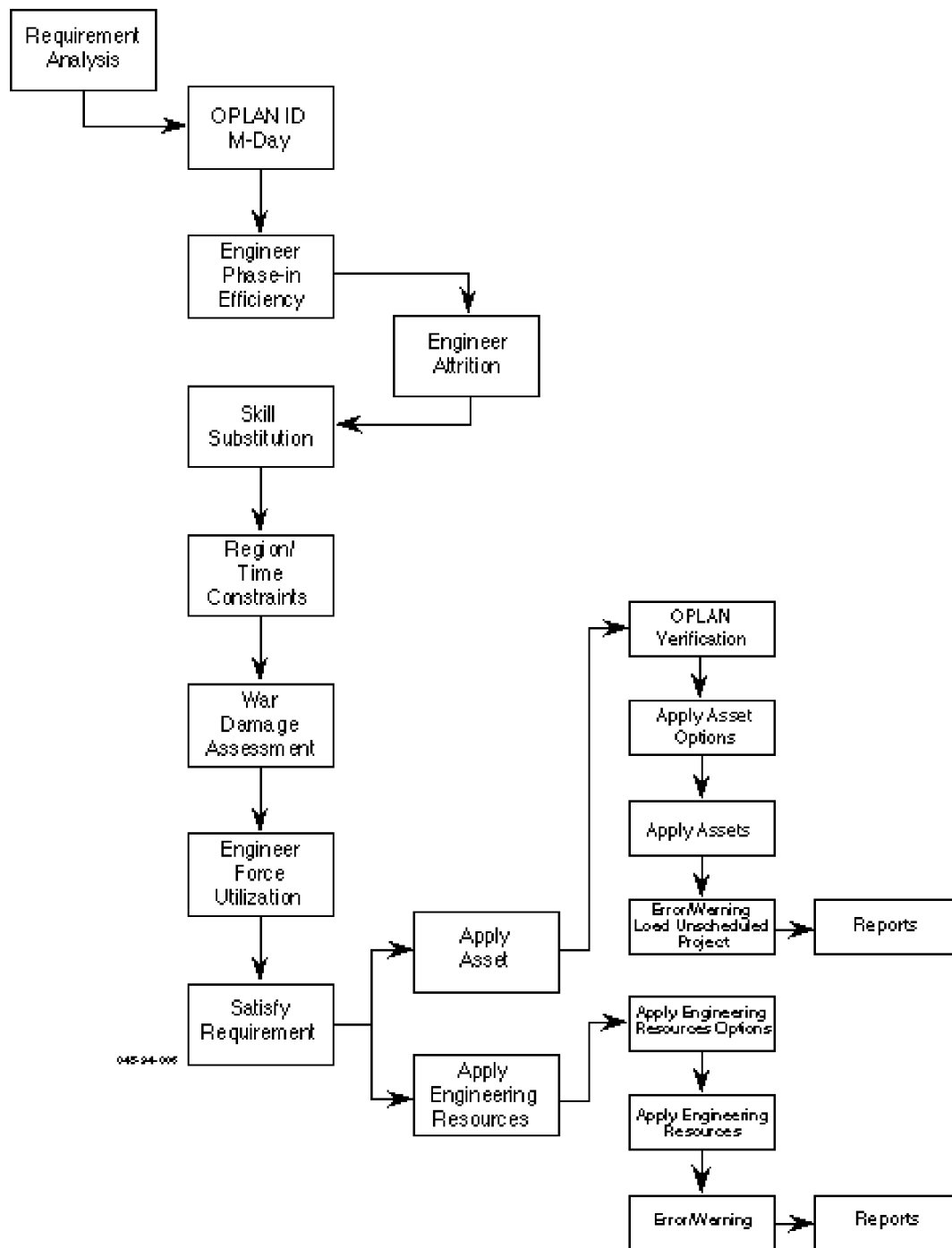See Figure 5.3.4-1, Requirements Analysis, for an overview of the functions.

Figure 5.3.4-1. Requirements Analysis

5.3.4.1 Identify OPLAN

The user must specify OPLAN and can specify the Mobilization Day (M-DAY). An OPLAN **MUST** be entered to generate and analyze requirements. The OPLAN must be the same as that identified in Requirements Generation. M-Day will default to zero if not specified. The maximum range is 180 days.

5.3.4.2 Engineer Phase-In Efficiency

The user can specify the working capability of incoming engineer units for a specified number of days. The phase-in efficiency percentages are used in determining engineering capabilities. The Phase_In_Efficiency table allows the user to assign percentages of effectiveness for engineering resources for a 1- to 8-day phase-in period after engineers have arrived. These effectiveness factors will normally begin at some value below 100 percent and gradually build up to a maximum of 100 percent. For example, on arrival day the engineer may be only 50 percent effective, by the 3rd day 75 percent effective, until 100 percent is achieved either on or before the 8th day.

5.3.4.3 Engineer Attrition

The user can specify the time periods and rates at which engineers are lost due to increased hostilities or accidents. The attrition factor can be applied to a period of up to 180 days with no more than eight attrition period/attrition factor combinations. If the first engineering unit arrives at the base complex after the last day of attrition, then no personnel attrition is applied.

5.3.4.4 Skill Substitution

The user can determine the skill factor if one type of engineer is substituted for another for the three types of engineers: vertical, horizontal, and other. The percentages are defaulted to zero. Skill substitution is attempted if there are remaining unsatisfied requirements. Each engineer is then assigned a substitution factor when assigned to perform engineering duties of the other two categories. For example, a vertical engineer may be assigned a horizontal skill substitution factor of .85, meaning that engineer is 85 percent as effective as a horizontal engineer when performing these duties.

5.3.4.5 Region/Time Constraints

The user can limit the requirements analysis information for up to four regions and/or a single time period. The time period default is the OPLAN time period, and region defaults to include all OPLAN areas. This entry permits the user to limit the retrieval of information reported on the analysis report listings for the Apply Assets and Apply Engineering Resource options. The Base_Complex table contains the Region code for a BCN. On the second screen, the user has the option to generate a report. The report displaying construction requirements is similar to the report generated when running Apply Engineering Resources option.

5.3.4.6 War Damage Assessment

The user can determine whether to consider the effects of war damage. The default is no. War damage assessment may be considered for a period of up to 31 days. The Apply Assets function will assess war

damage to facility assets and generate emergency war damage repair requirements. U.S. engineering resources will be applied to war damage repair of new construction.

Note: War damage **MUST** be set to "off" if Construction Policy Code is set to 4 ("do not build, but assess war damage") in the Base_Fac_Construction_Policy table.

5.3.4.7 Engineering Force Utilization

A user must decide where to use U.S. engineering manpower. The user will specify whether engineers are to be used only at the base complex where they are assigned or throughout the entire region in which the base complex is located. Currently, force utilization by region is not available.

5.3.4.8 Apply Assets

This function will apply existing assets to generated requirements. Before generating available assets, the user must enter the OPLAN ID. The user must then decide whether to apply U. S. and/or Host Nation assets. Host Nation assets include assets leased to the U.S. Figure 5.3.4.8-1, Requirements Analysis - Apply Assets, displays the inputs and outputs to the Apply Assets function. War damage is also considered if the user entered "yes" for assessing war damage.
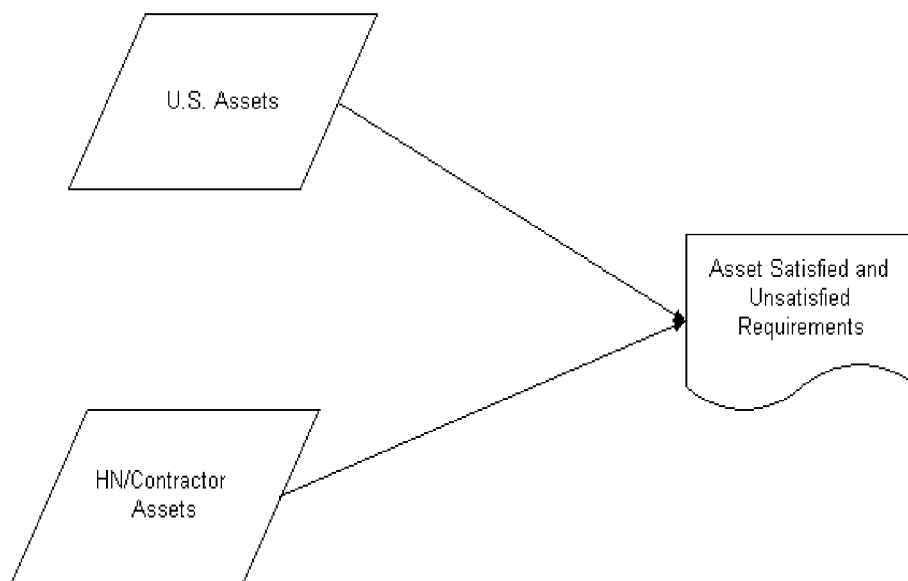

Figure 5.3.4.8-1. Requirements Analysis - Apply Assets

The facility asset substitution is currently not available. The user can also decide whether to use austere components for remaining unsatisfied projects. If specified, the austere components are applied to the remaining unsatisfied projects. For any requirements still not fulfilled, the Apply Assets function will determine the component(s) used to construct the facility, construction start and stop dates, and the Services responsible for building the facility. Services substitution can occur when selecting austere components. All

Coast Guard requirements shall use Navy components. All Joint Services requirements shall use Army components. Marine Corps shall use Navy components, if there are no Marine components available. The Apply Assets function will, then determine which projects will be satisfied by the available assets.

The user will then have the option to display or print errors and warnings. Refer to Appendix C, Error Messages, for more information concerning the errors and warnings. The user can also decide whether to load the unscheduled project data into the Unscheduled_Project table. If selected then all projects that do not have an "S" for Constructing Service will be added to the Unscheduled_Project table and all projects with an "S" will be added to the S_P_Tab table (Scheduled Project).

5.3.4.9 Apply Engineering Resources

The Apply Engineering Resources function assigns available engineering resources to remaining unsatisfied projects. The first screen specifies whether any parameters mentioned in Paragraphs 5.3.4.2 through 5.3.4.7 had been defined for this particular JEPES run. If not, previously defined parameters will be used.

The next screen will specify whether the user wants to consider climatic factors that influence construction capability. The user can either use the information from the Climatic_Factors table or specify a single fixed climatic factor to apply for all requirements. The climatic factor is used to decrease engineering capability due to environmental or climatic conditions that exist in the region or OPLAN area where the unit is located. The engineer's efficiency rate is divided by the climatic factor. Therefore, the more severe the climate the larger the climatic factor.

The user then specifies what resources to apply to the unsatisfied projects. The U.S. engineering capabilities are always applied, and the user has the option to also use host nation and civilian contractor engineering capabilities. See Figure 5.3.4.9-1, Requirements Analysis - Apply Engineering Resources, for the inputs and outputs. After the user enters the applicable information, JEPES executes the Apply Engineering Resources function which first determines the engineering capabilities and adjusts the manpower available. This process takes into account phase-in efficiency, climatic factors, engineer attrition, and the areas where engineers are utilized.
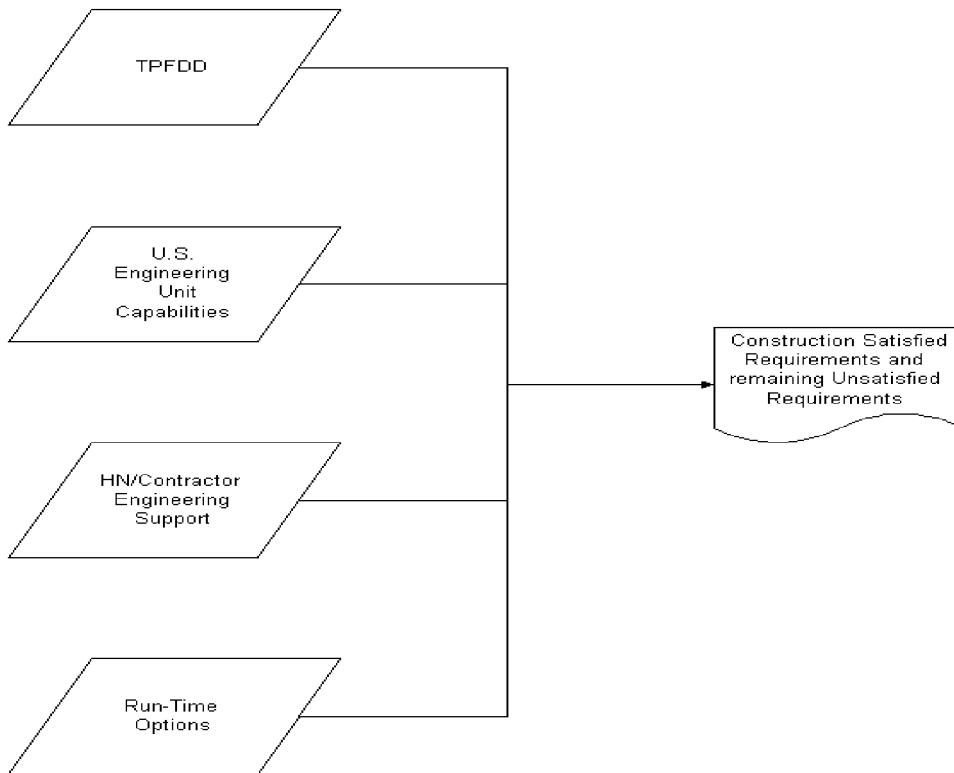
Figure 5.3.4.9-1. Requirements Analysis - Apply Engineering Resources

If user specified, the host nation and/or civilian contractor engineering resources will be assigned to the unsatisfied requirements. The Engineering_Support table contains host nation and contractor engineer support information.   Requirements that are assigned to the host nation contractor will be loaded into the Scheduled_Project table, and remaining unsatisfied requirements will be in the Unscheduled_Project table. Any construction requirements assigned to the host nation/contractor will not be considered for assignment to the U.S. engineering resource.

Note: The JEPES program will display "Applying Host Nation Resources" regardless of what a user inputs for engineering resources. However, the JEPES program will immediately exit the Apply Host Nation Engineering Resources program without generating any information if the user did not select Host Nation Resources.

After applying Host Nation Engineering Resources, the U.S. Engineering Resources will be applied. War damage for completed construction and skill substitution will be considered, if specified by the user. The war damage repair requirements have a number assigned to the subproject number. The project type (see Appendix H, Table H-10, Project Type Codes) distinguishes between war damages, which are repair types, and nonwar damage projects, which are not repair types. The scheduled projects get loaded into the Scheduled_Project table.

Note: Resources can only be used for requirements up to 180 days. A project in the Unscheduled_Project table must have a required completion date of 179 or less. A constraint error in the Ada code will occur when applying U.S. engineering resources if the required completion date is greater than 179. One possible method to work-around this error is to delete from the Unscheduled_Project table all records that have a Required Completion Date greater than 179.

5.3.4.10 Display Errors/Warnings

Errors/Warnings can be displayed for both Apply Assets and Apply Engineering Resources. See Appendix C, Error Messages, for more information on errors and warnings.

5.3.4.11 Generate Reports

Reports can be printed to list all satisfied and unsatisfied requirements. Time and region limits will be taken into account if specified by the user. Refer to Paragraph 3.3.1.4.1, Reports, for more information.

5.3.5   Reports

This option allows the user to produce printouts and/or graphs for previously generated requirements.

5.3.5.1 Standard Reports

The Requirements Generation option allows the user to reproduce reports and graphs for the Requirements Generation with the option of changing the aggregation periods. These reports reflect what is in the Project table. Paragraphs 5.3.3.6, Generate Printed Reports and 5.3.3.7, Generate Graphs/Spreadsheets, describe these functionalities in more detail. The Apply Asset and Apply Engineering Resources options allow the user to reproduce reports for the Apply Assets function and the Apply Engineering Resources function with the option of defining a different region and time constraints. The Apply Asset reports reflect what is in the Unscheduled_Project table and the S_P_Tab table, and the Apply Engineering reports reflect what is in the Scheduled_Project table. Refer to Paragraphs 5.3.4.5, Region/Time Constraints and 5.3.4.11, Generate Reports, for more information. Figure 5.3.5.1-1, Reports, shows an overview of these three functions.
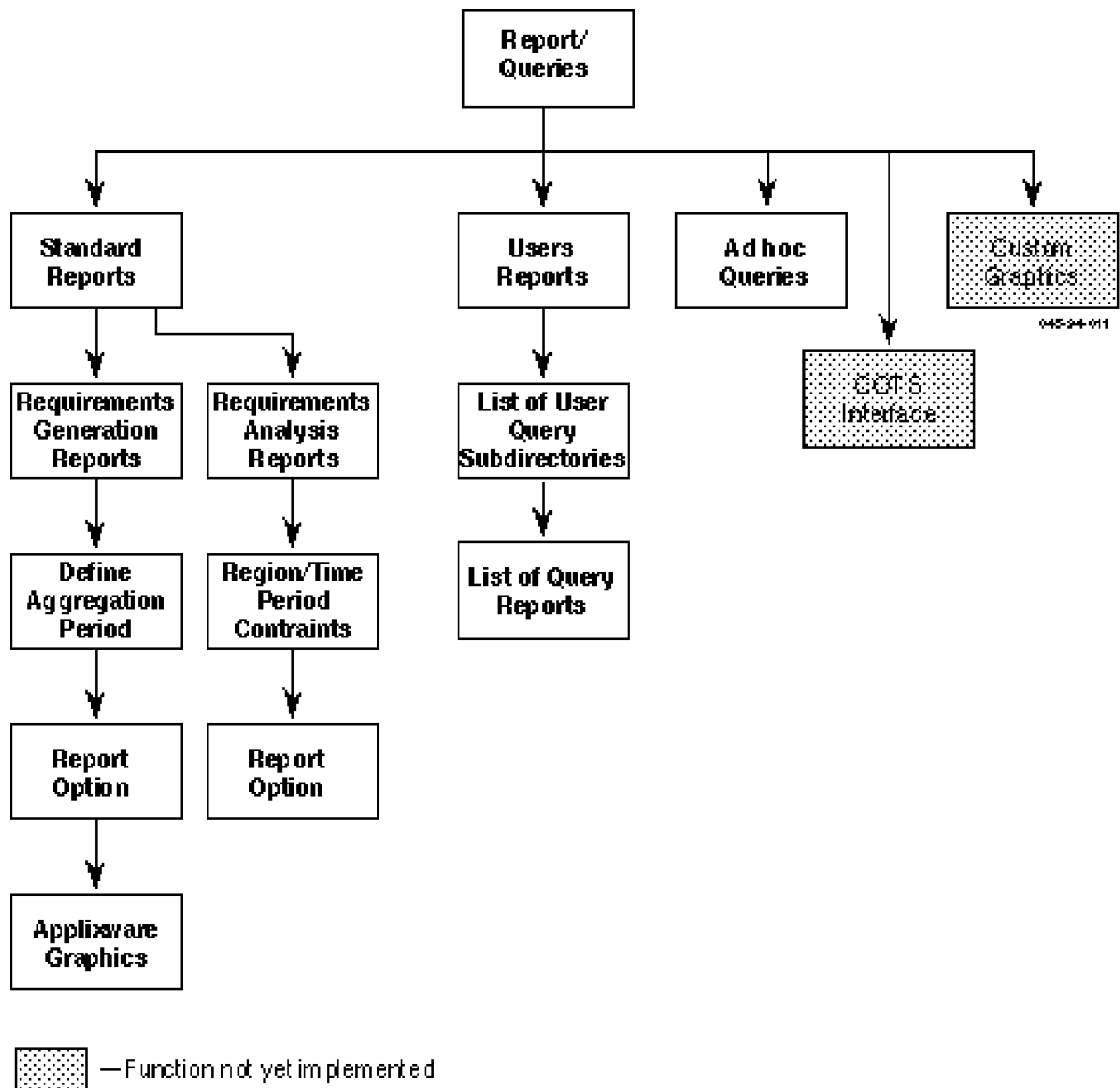
```
                    +----------+
                    | Report/  |
                    | Queries  |
                    +----------+
```

Figure 5.3.5.1-1. Reports

5.3.5.2 User Reports

This option allows the user to execute user-defined reports. These reports must reside in user-defined subdirectories under the user subdirectory called *user_rpt* (i.e. *$HOME/jepes/user_rpt*). When selecting this option, the list of user-defined subdirectories under *user_rpt* will be displayed. After selecting the subdirectory, a list of the report files residing in that subdirectory will be displayed. The user can then select a report to generate its output.

5.3.5.3 Ad Hoc Queries

This option allows the user to temporarily exit JEPES and enter the SQL*Plus environment. The default directory will be the user's subdirectory called *user_sql* (i.e. *$HOME/jepes/user_rpt*). The user can issue SQL query commands or execute a predefined query file that resides in *user_sql*. The user should type "Exit" to return to JEPES.

5.3.6   Support

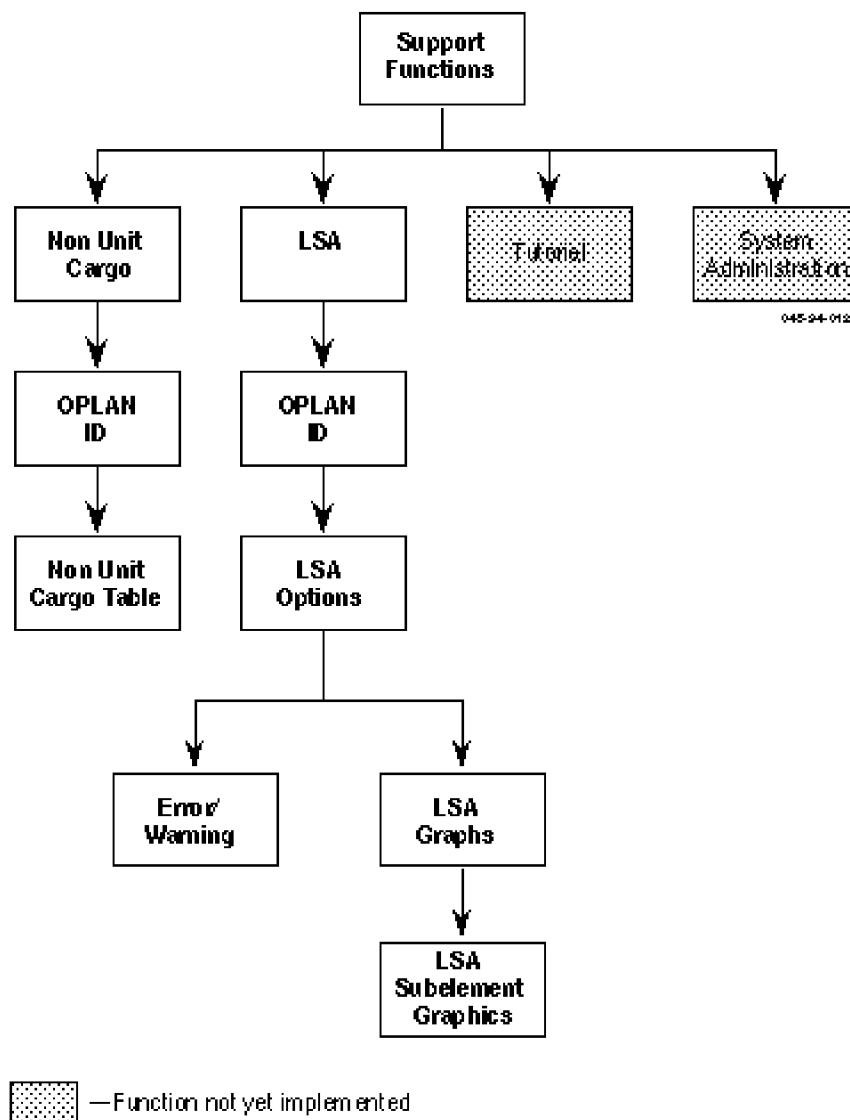Figure 5.3.6-1, Support Functions, shows an overview of the Support functions.

Figure 5.3.6-1. Support Functions

5.3.6.1 Non-Unit Cargo

The user can generate non-unit cargo information and then create a text file called *logsafe.Txt* to be used in LOGSAFE, see Figure 5.3.6.1-1, Non-Unit Cargo.
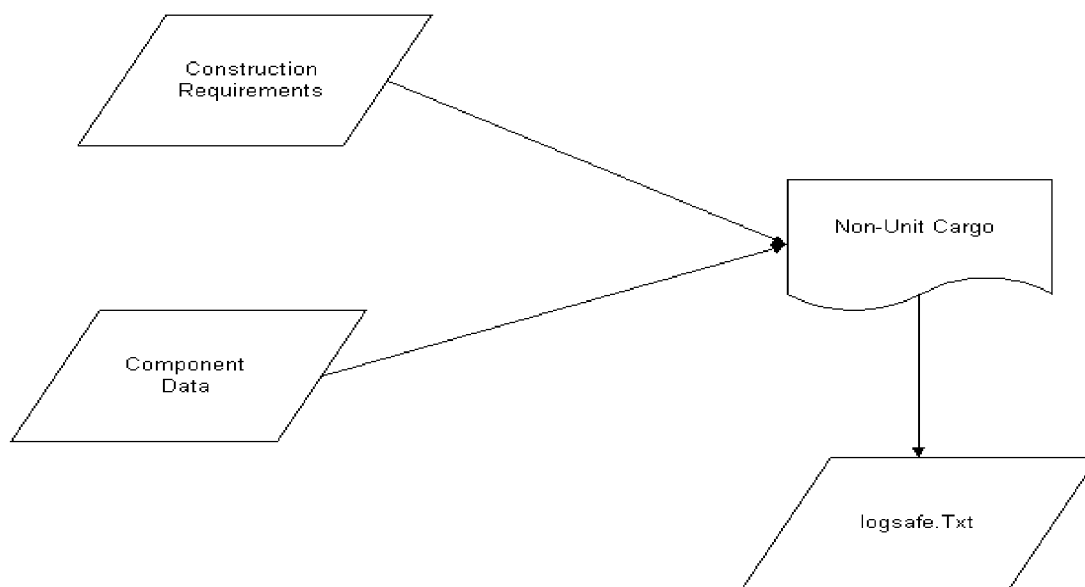

Figure 5.3.6.1-1. Non-Unit Cargo

A user can generate a list of non-unit cargo shipment requirements as indicated at the JEPES Non-Unit Cargo screen and the OPLAN Identification screen (for Non-Unit Cargo) by entering the OPLAN ID and pressing the **{COMMIT}** button. The non-unit cargo data contains STON and MTON transportation requirements. Components necessary for project construction are first examined to determine weight, and then aggregated by Services to yield STON and MTON transportation requirements for a selected period of time and BCN. The user can update the non-unit cargo information and, then press the **{COMMIT}** button to store the updated information into the *logsafe.Txt* file.

Note: Requirements Generation and Requirements Analysis will need to have been executed before generating non-unit cargo information. In addition, the type of facility requirements generated and satisfied will be represented.

5.3.6.2 LSA

The Logistics Sustainment Analysis function (LSA) provides assistance to the planner in determining the supportability of a COA/OPLAN based on the availability of the individual infrastructure subelements. There are six infrastructure subelements that are considered: airfields, POL storage/distribution, seaports,

non-POL storage/distribution, troop support, and utilities. JEPES LSA function will generate the LSA information for each subelement and display the information into six detail and two summary graphs.

After entering the OPLAN ID, the user can select three options. The first option creates LSA data. The user must create LSA data before generating graphics. If a user specified this option in a previous run and no new requirements have been generated, the LSA data should still exist and does not need to be regenerated. JEPES will assign construction components to the asset-satisfied requirements and stores this information into the LSA_Requirement table. After the information is determined, the user has the option to display error and warning listings. See Appendix C, Error Messages, for more information on error and warning listings.

Note: Requirements Generation and Requirements Analysis will need to have been executed before creating LSA data.

The second option provides LSA graphics for the six infrastructure subelements. LSA data must be generated before creating the graphics. The first graphic displays the percentage of the forces sustainable as a function of time. The second graphic displays the minimum percent available for each subelement. The third graphic provides the user with the option to display the percent available for each of the subelements as a function of time. For more information concerning the graphic output refer to Paragraph 3.3.1.5.2, LSA.

The final option produces the *lsa.Txt* file. This file contains information concerning the percentage of deploying forces that the existing infrastructure can sustain. For information concerning the LSA text file, refer to Paragraph 3.3.1.5.2, LSA. Figure 5.3.6.2-1, LSA, shows the inputs and outputs to the LSA function.
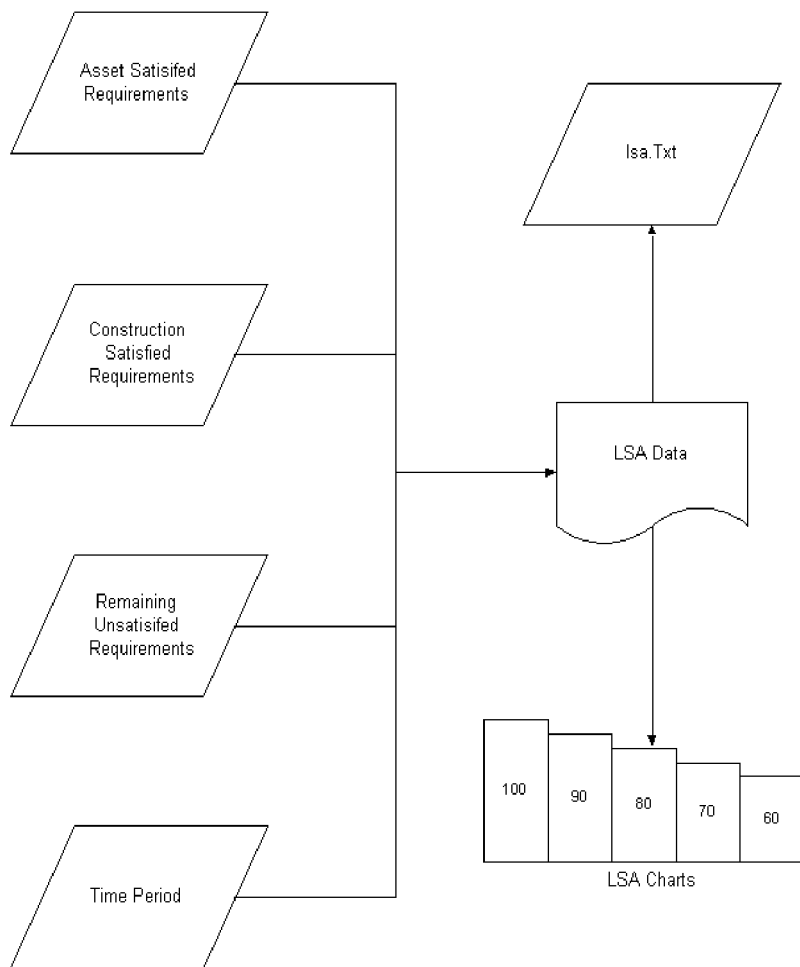
Figure 5.3.6.2-1. LSA

5.4 Recovery from Errors, Malfunctions, and Emergencies

After executing Requirements Generation, Requirements Analysis, Non-Unit Cargo, and LSA functions, the user is prompted to print or display warning and error messages. Warnings occur when data is missing, data is invalid, etc., and the function may abort. If the function cannot recover from the warning, the problem will also be written to the error message. For problems that cannot be recovered, the error message will contain "processing terminated." Errors occur when something not normal happens, such as problems accessing the JEPES database, missing JEPES data, or a data constraint error. These warnings and error messages were generated by the Ada software. For error messages, the first error message describes the actual error and the subsequent messages describe the functional flow through the Ada code. This functional flow is to assist the JEPES Maintenance programmer in determining the error. For warning messages, only the actual warning is displayed and should assist the user is determing what data is missing. Figures 5.4-1, Asset Source Indicator Error, and 5.4-2, Warnings, show examples of error and warning messages, respectively. Appendix C, Error Messages, lists some possible error messages and suggested methods of recovering from the error. Since

only the user knows what data and options were input that may have caused the error, the recovery methods can only be a guide. Figures that indicate the specific Ada programs also indicate the tables in use; thus, these figures may be used as a guide to determine which data tables may be suspect.

```
94/02/13 14:11:25    Processing begins
Error: Operation View.Convert(1.0)
       Invalid Asset Source Indicator
Pln Idr           : DEMO DB
Generate Rqmts Type:    NNNNYNNN
Error: Operation View.Fetch(1.0)
       Invalid data in current tuple
Error: Run Data.Read A Record (2.0)
       Database value out of range
Error: Requirements
Generator.Initialize(1.1)
       Undefined processing error
Error: Tjepes(1.1)
       Fatal processing error
94/02/13 14  26 Processing completes
```

Figure 5.4-1. Asset Source Indicator Error

```
94/02/15 12:00:36 Processing begins
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132C
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132D
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871B
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972B
Warning: Planning Factors Data.General Planning Factors Exist(1.1)
     No general planning factor records found for:
     Planning factor type: PEOPLE and service code: P
Warning: Planning Factors Data.General Planning Factors Exist(1.1)
     No general planning factor records found for:
     Planning factor type: PEOPLE and service code: P
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132C
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132D
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871B
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972B
Warning: Planning Factors Data.General Planning Factors Exist(1.1)
     No general planning factor records found for:
     Planning factor type: PEOPLE and service code: P
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132C
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132D
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871B
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972B
```

Figure 5.4-2. Warnings (1 of 2)

```
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132C
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132D
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871B
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972B
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132C
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 132D
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 871B
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972A
Warning: Facility Data.Position Of(2.4)
     Facility Category Code not found 972B
Warning: Planning Factors Data.General Planning Factors Exist(1.1)
     No general planning factor records found for:
     Planning factor type: TOTPOP and service code: A
Warning: Planning Factors Data.General Planning Factors Exist(1.1)
     No general planning factor records found for:
     Planning factor type: TOTPOP and service code: A
Warning: Planning Factors Data.General Planning Factors Exist(1.1)
     No general planning factor records found for:
     Planning factor type: TOTPOP and service code: A
94/02/lS 12:03:51 Processing completes
```

Figure 5.4-2. Warnings (2 of 2)